SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION

Accredited by NAAC – UGC with 'A' Grade

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Department of Mechanical Engineering

19BY701 - BIOLOGY FOR ENGINEERS

UNIT -1 |INTRODUCTION TO LIFE

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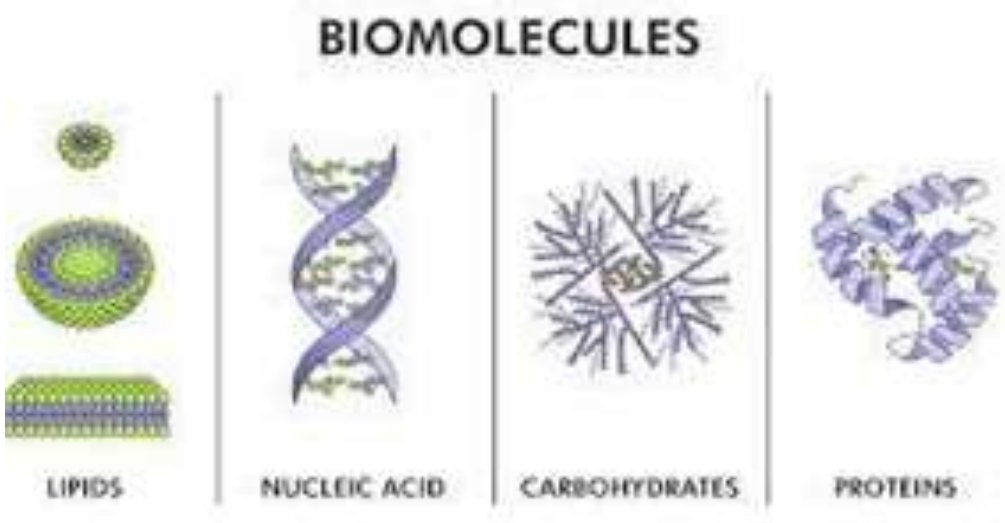
Ap/Mech

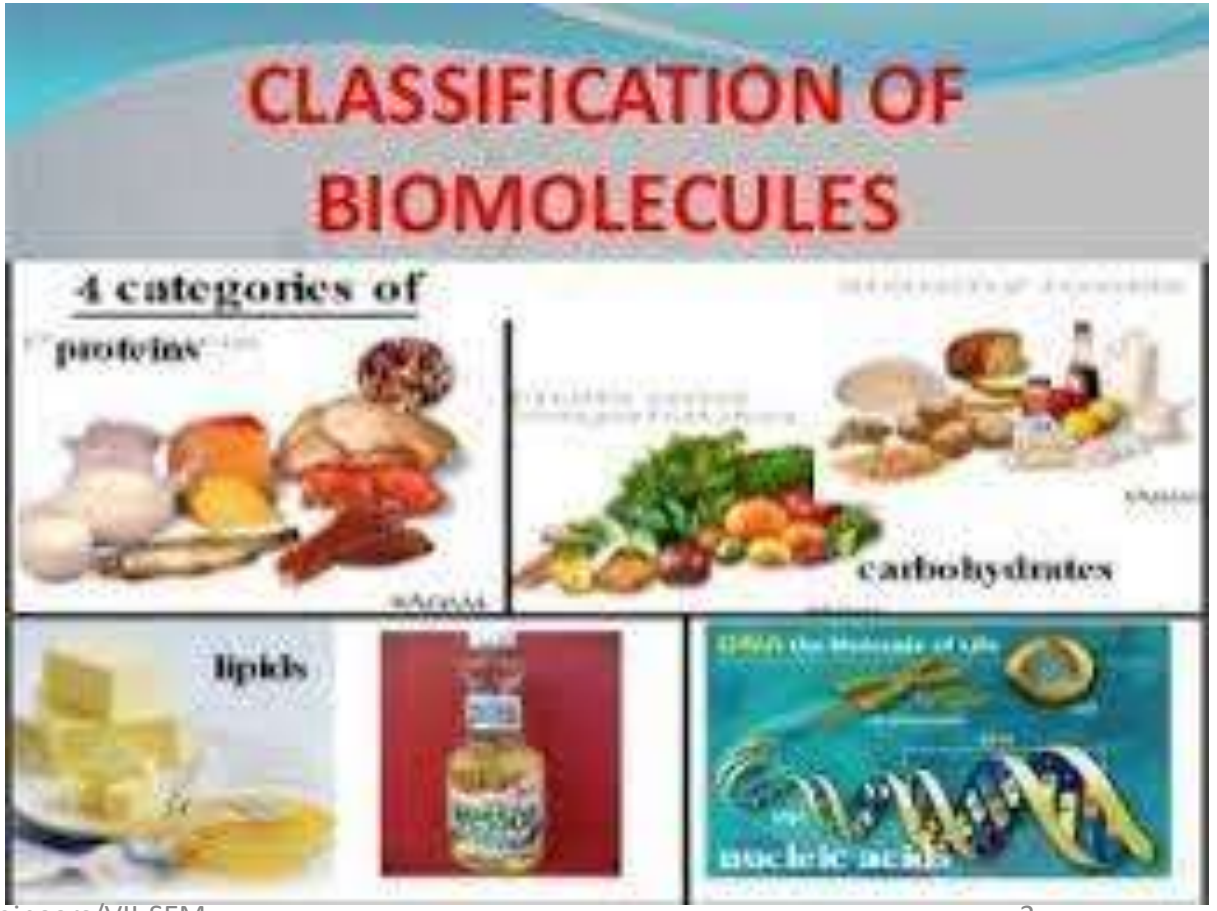
BIOMOLECULES

- biomolecule, also called biological molecule, **any of numerous substances that are produced by cells and living organisms**.
- Biomolecules have a wide range of sizes and structures and perform a vast array of functions.
- The four major types of biomolecules are carbohydrates, lipids, nucleic acids, and proteins.



CLASSIFICATION OF BIOMOLECULES

- The four major types of biomolecules are
- **Carbohydrates**
- **Lipids**
- **Nucleic acids**
- **Proteins**

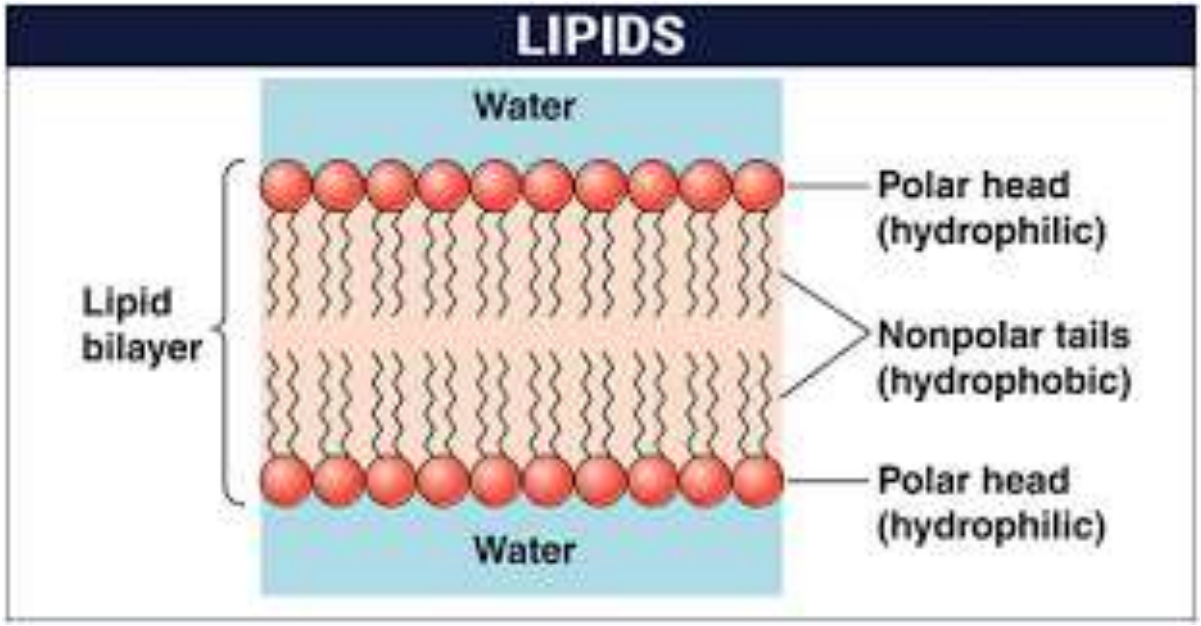


CARBOHYDRATES

- Carbohydrates are biomolecules **comprising carbon, hydrogen and oxygen atoms**.
- They are an important source of energy.
- They are sugars, starch and fibres found in fruits and vegetables. **Bacteria Cell**
- **Diagram:** Cell Biology
- **Fermentation Definition:** Eye Structure
- **Cell Division:** Respiration Meaning

LIPIDS

- Lipids are **fatty, waxy, or oily compounds that are soluble in organic solvents and insoluble in polar solvents such as water**.
- Lipids include: Fats and oils (triglycerides) Phospholipids.



NUCLEAR ACID

- Nucleic acids are **large biomolecules that play essential roles in all cells and viruses**.
- A major function of nucleic acids involves the storage and expression of genomic information.
- Deoxyribonucleic acid, or DNA, encodes the information cells need to make proteins.

PROTEINS

- A protein is **a naturally occurring, extremely complex substance that consists of amino acid residues joined by peptide bonds**.
- Proteins are present in all living organisms and include many essential biological compounds such as enzymes, hormones, and antibodies.

ASSESSMENT

Fill Ups

- Biomolecules have a wide range of _____ and _____ and perform a vast array of functions.
- A major function of nucleic acids involves the _____ and _____ of genomic information.